



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/621,281	07/20/2000	Dong-Hoon Lee	3430-0126P	4261

2292 7590 09/30/2002

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

NGUYEN, HOAN C

ART UNIT PAPER NUMBER

2871

DATE MAILED: 09/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/621,281

Applicant(s)

LEE, DONG-HOON

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Because applicant admits that the related art discussed in the specification and set forth in the figures 2-4 are not prior art (in remarks, page 11 lines 2-3). Thus, applicant's arguments with respect to claim 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 6-8 and 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 and 14 are rejected because the term "adjustable" in claims 6 and 14 is a relative term which renders the claim indefinite. The term "adjustable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Applicant should provide "concentration is adjustable" at what range. It seems that concentration of the reflective material (Al or Ag) is always adjustable on surface of the transfective film at particular concentration.

Claims 7-8 and 15-16 are rejected since they depend on infinite claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (US6295109B1) in view of Taiji (JP3228027).

In regard to claims 1 and 10, (Figs 2-3 and 21-22) a transfective liquid crystal display device comprising:

- a liquid crystal display panel having a first transparent substrate (counter substrate), a second transparent substrate (an active-matrix substrate),
- a liquid crystal layer interposed between the first and second transparent substrates as shown in Fig. 2,
- the first transparent substrate having a color filter (col. 48 lines 7-12, it was conventional that color filter is formed on counter substrate for color display),
- the second transparent substrate having a pixel electrode 54 and a reflector,
- the reflector 52 made of an opaque conductive material (claim 4), and having a light transmitting hole which the pixel electrode 54 covers, the light transmitting hole transmitting light;
- a back light device (col. 13 lines 24-32).

wherein

- the reflector is made of an opaque (block light) conductive material of aluminum (col. 50 lines 33-35) according to claims 4 and 12;
- the pixel electrode is made of indium-tin oxide (col. 49 lines 34-35) according to claims 5 and 13.
- the hole has a rectangular shape as Fig. 21 shown according to claim 9 and 17;

However, Kubo et al. fail to disclose a transfective film located outside of the second transparent substrate of the liquid crystal display panel, and the transfective film is made of a transmissive material with reflective material scattered therein, wherein (a) transmissive material is made of acrylic-based resin according to claims 3 and 10, (b) the reflective material of the transfective film is selected from a group consisting of Ag and Al according to claims 2 and 11; (c) the transfective liquid crystal display device has a reflective main mode, and the concentration of the reflective material is increased according to claims 7 and 15; (d) the transfective liquid crystal display device has a transmissive main mode, and the concentration of the reflective material is decreased according to claims 8 and 16.

Taiji teaches (Figs. 1-3) the transfective LCD device, wherein

- a transfective film (diffusion plate 2) located outside of the second transparent substrate of the liquid crystal display panel 1, and the transfective film is made of a transmissive material of acrylic resin 6 with reflective material (aluminum particles 7) scattered therein for improving display quality.

- the concentration of aluminum particle can be adjusted to modulate transmission, reflection and absorption as Fig. 3 shown according to claims 6 and 14.
- the transfective liquid crystal display device has a reflective main mode, and the concentration of the reflective material is increased as shown in Fig. 3 according to claims 7 and 15.
- the transfective liquid crystal display device has a transmissive main mode, and the concentration of the reflective material is decreased as shown in Fig. 3 according to claims 8 and 16.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Kubo et al. disclosed with (a) a transfective film located outside of the second transparent substrate of the liquid crystal display panel, and the transfective film is made of a transmissive material with reflective material scattered therein, wherein the reflective material of the transfective film is selected from a group consisting of Ag and Al for producing bright picture; (b) a concentration of the reflective material scattered on a surface of the transfective film is adjustable for modulating transmission, reflection and absorption.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703)

Art Unit: 2871

306-0472. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SIKES L WILLIAM can be reached on (703) 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8178 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

HOAN C. NGUYEN
Examiner
Art Unit 2871

chn
September 25, 2002


TOANTON
PRIMARY EXAMINER